



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

THE DEVELOPMENT OF LEIBNIZ'S MONADISM.

THE study of the *Monadology* may be comprised in three stages. In the first we isolate the work; with no other aid than the philosophical counters which itself employs, we attempt to draw its fantastic world around us and find it real. Perhaps we supplement it by searching in other works of Leibniz for elucidations of points which are not clear; but in any case we take the *Monadology* as a creed and test our possibilities of belief. No philosophy can be understood without this preliminary effort to accept it on its own terms; but its true value can never be extracted solely in that way. The perfected or the summarized form of any system is the starting point, not the terminus of study. We must effect a radical restatement, find in it motives and problems which are ours, giving it the dignity of a place in the history of science when we withdraw from it the sanctity of a religion. In losing the consistency of a closed system, it gains the consistency of reason, is attached to something larger than itself. Russell and Couturat have accomplished this revaluation for Leibniz. But beside the leading motive, the reason of a philosophy, there are other strata both below and above: prejudices, traditions, suggestions, motives which imperfectly assimilate to the central motive, all of which combine to give to the system the form which it has. The present essay is merely a preface to the investigation of these forces.

There are influences of suggestion, influences of tradition, personal influences, and, moreover, there is more than one conscious interest. Among influences of the first sort upon Leibniz (none of them of the highest importance)

I should class a variety of authors whose contributions to Leibniz are more verbal than profound. Leibniz's reading was wide beyond any point of selection, and he appears to have derived some entertainment from such philosophers as Giordano Bruno, Maimonides, and the Averrhoists.¹ Bruno is a classic example of influence in the most superficial sense. It is not certain, nor is it important, at what period Leibniz became acquainted with Bruno's works. For the probability that Leibniz was struck by the figurative language, that Bruno may have been in the background when Leibniz wrote some of his more imaginative passages, there is evidence enough. For the probability that Bruno affected Leibniz's thought there is no evidence whatever. What we have is a statement which bears strong superficial resemblances to the statement of Leibniz; the arguments, such as they are, the steps which lead up to the statement, are not similar. Leibniz's arguments are sufficiently strong not to demand support from the fact that there were monadologists before Leibniz. To his imagination we may concede plagiarism. But it is with the sources of his thought, not with the sources of his imagery, that we are concerned.

The other sources mentioned may be dismissed in the same way. It is interesting, perhaps, but not valuable, to observe that Leibniz read with appreciation a book by Maimonides. And though he never couples the names of Spinoza and Maimonides together, the notes which he made upon this book single out just the points of resemblance to the *Theologico-politicus*—the first work of Spinoza that he read. He was interested in Hebrew and Arabic studies. Bossuet sends to him for a translation of the Talmud. He announces to Bossuet a translation of the Koran. A dialogue of 1676 shows that he knew,

¹ For Bruno see H. Brunnhofer, *G. Brunos Lehre vom Kleinsten*. For Maimonides see Foucher de Careil: *Leibniz et la philosophie juive*; Rubin: *Erkenntnistheorie Maimons*.

through Maimonides, the doctrines of the Averrhoists and of a certain Jewish sect, the Motekallem. In 1687, while traveling in Bavaria, he undertook some study of the Kab-bala, and perhaps noticed the theory of emanation from an infinite being which consists in an indivisible point—and the microcosm is said to be a familiar idea in Jewish philosophy. These studies, rather shallow it is true, illustrate Leibniz's insatiable curiosity toward every sort of theological hocus-pocus. Monadism was probably a satisfaction of this side of Leibniz's mind, as well as the outcome of his logical and metaphysical thought.

Of influences of suggestion there is only one which may have been of the first importance—the influence of Plato, to be treated later. The main influences which directed Leibniz are of three kinds: the scholastic Aristotelian tradition in which he was brought up, the very early stimulus of a personal teacher toward a mathematical conception of the universe, and Leibniz's temporary adhesion to atomism. His chief motives, more or less corresponding to this classification, were theological, logical and physical.

Merz expresses the conventional opinion² in saying that the *De principio individui* "bears witness to the young author's knowledge of scholastic learning as well as to his dexterity in handling their dialectic methods." Incompetent to impugn the scholastic erudition of young Leibniz, a perusal of this document impels me to exclaim with Kabitz, "as if the copious citation of passages from scholastic compendia proved any 'astonishing' learning on the part of Leibniz; as if he could not obtain these quotations just as well second-hand!"³ The treatise is very short and very dull. Two or three passages in it are often quoted. "Pono igitur: omne individuum sua tota entitate individuatur"; and "Sed si omnis intellectus creatus tolleretur, illa

² Merz, p. 15.

³ Kabitz, *Entstehung der Philosophie des jungen Leibniz*, p. 50.

relatio periret, et tamen res individuarentur, ergo tunc se ipsis." The principle of individuation is not mental, nor is it negative. Though Leibniz documents this work with such names as Occam, Scotus, Aquinas, Suarez, Molina, Zabarella, what the thesis shows is not extent of learning or originality of thought. It shows that there was a certain body of inheritance which pointed in a certain direction. It shows a scholastic point of view from which Leibniz never really escaped, and which he never wholly rejected.⁴ In the light of these quotations is to be interpreted not only monadism, but the materialistic atomism which for a time engaged his attention. At this early period, and indeed throughout his life, there is little evidence of direct adaptations from Aristotle. But here as always one finds the acceptance of the problem of substance, transmitted from Aristotle through the form which the school had given it. In some ways diametrically in opposition with Aristotle, this scholastic view of substance which Leibniz held is yet an Aristotelian inheritance. This point is of capital importance.

It appears that Leibniz abandoned his study of the philosophers of the church when he felt called, at a very early age, to the mechanical view of nature (Merz, p. 15). But there was never a complete renunciation, and Leibniz, who seldom spoke ill of a dead philosopher, always praises the schoolmen. The change was a transition and not an apostasy. In 1663, at Jena, while pursuing his studies in jurisprudence, he fell under the influence of Weigel. Weigel was acquainted with the work of Copernicus, Kepler and Galileo. Kabitz says (*op. cit.*, p. 112) that "the fundamental conception of Leibniz's system (according to which the universe is an harmonic, mathematico-logical related whole became a firm conviction with Leibniz

⁴ Nolen, *Quid L. Aristoteli debuerit*, p. 27: "mea doctrina de substantia composita videtur esse ipsa doctrina scholae peripateticae. Nisi quod ille monadas non agnovit."

through Weigel, before he was acquainted with the work of Hobbes." Bisterfeld of Leyden is another mathematician admired by Leibniz in his youth, and his influence is supposed to be visible in the *Ars combinatoria*. The idea of a harmony of a universe of individual substances is present in other writings of Leibniz's adolescence.

Leibniz's scholastic training in metaphysics under Thomasius was followed by that period in which, as he says, "having freed myself from the yoke of Aristotle [by which he means the attenuated scholasticism of his day], I took to the void and the atoms, for that is the view which best satisfies the imagination."⁵ This may have been about 1666.⁶ It is easy to see from the *De principio individui* (written, according to his own chronology, when he had already fallen under the influence of Gassendi) that this liberation was merely a development of extreme nominalism in the currents of his time. In 1676 he can still write, "Ego magis magisque persuasus sum de corporibus insecabilibus. . . . simplicissima esse debent ac proinde sphaerica," but goes on to say "Nullus enim locus est tam parvus quin fingi possit esse in eo sphaeram ipso minorem. Ponamus hoc ita esse, nullus erit locus assignabilis vacuus. Et tamen Mundus erit plenus, unde intelligitur quantitatem inassignabilem esse aliquid."⁷ The atomism survives in 1676, although the void is abandoned, and the influence of his mathematical work is visible (this was just at the end of the period in Paris, when he was corresponding with Newton through the medium of Oldenburg). In this year occurred also his visit to London and to the Hague.

In the next period of his life, when he had for some years been occupied chiefly with mathematical matters, falls the elaboration of his argument against Descartes's theory of matter,—Descartes, who had been partly responsible for

⁵ Latta, p. 300.

⁶ See Kabitz, p. 53.

⁷ Couturat, 1903, p. 10.

Leibniz's tendency toward a mechanical view. The unsatisfactory character of the views of Descartes and of Gassendi had, it is true, been pointed out by him several years before. In this later period, besides physic and pure mathematics, a third scientific interest may be noted. He refers often to Swammerdam, Leuwenhoek and Malpighi, and it is evident that he felt a genuine enthusiasm for the progress of biology, aside from the support which certain theories lent to his doctrine of preformation. But as his interest in biology is apparently subsequent to the observable beginnings of monadism, these theories were rather a confirmation than a stimulus.

To these philosophical and scientific occupations must be joined another which was no less important. This is his perfectly genuine passion for theology. Developed perhaps out of his early training, this theology, in a mind which never lost an interest it had once taken up, remained a powerful influence throughout his life. His solicitude for the orthodoxy of his philosophy was not merely policy or timidity; his theological disputations are not merely a cover for logical problems. Leibniz's theological motive is responsible for much of the psychology of his monads; it took deep root in his system, though not altogether without disturbance of the soil. The only two interpretations of Leibniz which are of any importance, that of Dillmann⁸ and the superior interpretation of Russell and Couturat, minimize the significance of this motive.

"Ma métaphysique est toute mathématique, pour dire ainsi, ou la pourroit devenir," Leibniz writes to the Marquis de l'Hôpital (Dec. 27, 1694). And Russell says (p. 49) in speaking of the subject-object relation, "the whole doctrine depends, throughout, upon this purely logical tenet." Strictly speaking, this assertion is perfectly justified. For a historical account it is insufficient. Leibniz puts his prob-

⁸ *Neue Darstellung der Leibnizischen Monadenlehre.*

lems into logical form, and often converts them slyly into logical problems, but his prejudices are not always prejudices of logic. The value of Leibniz's logic is to a certain extent separable from the value of his philosophy. The view of the nature of substance with which he starts is due to a logical problem. But there is no logical descent from pluralism to the view that the ego is substance. Leibniz's view of substance is derived from Aristotle, but his *theory* of substance is quite different: it is Aristotle's theory filtered through scholasticism and tintured by atomism and theology.

When we father the problem of substance upon Aristotle, we must remember that it was a problem which he never succeeded in resolving, or pretended to have resolved. The chief inheritance of modern philosophy from his doctrine is the proposition that "substance is that which is not predicated of a subject, but of which all else is predicated" (1029a). Aristotle recognizes that there are various senses in which we may use the term, and various substances beside the sensible substances, which have matter. In one sense the composite of form and matter (e. g., animals and plants) is substance, in another sense substance is "the form by which the matter is some definite thing" (1041b). And again the substratum (1029a) is that of which everything is predicated. Matter certainly is not substance, because matter *qua* matter has neither limit nor the potency of limit by separation (see 1017b). And again the universal is more substantial than the particulars (*Metaph.*, Z 13). Wherever Aristotle pursues the concept of substance it eludes him. These tentative definitions, assumed for dialectic purposes, are abandoned in favor of that of 1041b. This bears, it is true, very striking resemblances to the substance of Leibniz. As to the meaning of form and the relation of formal to efficient and final

cause Aristotle remains difficult and vague, while for Leibniz the formal and efficient causes in the case of substance are identical.

There is another and very serious difficulty in the theory of Aristotle. From one of Aristotle's points of view only the individual should be real, from the other only the specific. The form is always *ἄτομόν*; thought analyzes and resynthesizes its constituents to give the *λόγος τοῦ τι ἦν εἶναι*. Of the subject either the whole or a part of the definition can be affirmed: thus we can define Socrates *qua* man as *ζῷον διέπονν λογικόν*. But predications of particular individuals belong to the attributive, not to the definitory type of judgment. In this type of judgment the predicate affirmed, although it belongs to the subject, is not a constituent of the subject's essential nature. As the essential nature of Socrates is man, anything which is not contained in the form of man in general will be attributive only and not definitory, inasmuch as it might have been otherwise. For Aristotle not all predicates are contained in their subjects. Hence there can be no definition of individuals of a species (1040a). The substance must be individual, in order to be the subject; it must be a "this." But the "this" cannot be composed of universals, because no number of "suches" will constitute a "this," and on the other hand it cannot be composed of other substances. We thus get two opposed views: the substance is the form of the species, in which case it breaks loose from the concrete thing and gives rise to the same difficulties which Aristotle censured in Plato; or the substance is the individual thing, in which case there is no definition and no knowledge. One view is in harmony with Aristotle's methodology, the other with his theory of elementary cognition.⁹

⁹ In *An. post.* 100a (Chap. XIX) we are told how the knowledge of the universals arises through experience of particulars. "First principles" are arrived at by induction. What is not made clear is the status of the particulars after scientific knowledge is established.

Aristotle is here betrayed by his representation theory—the exact correspondence between constituents of propositions and constituents of things; although in other contexts he is an epistemological monist. The same incoherence appears in his account of the soul. Is the substance the compound of matter and form, or the form alone?

It was the Aristotelian problem of substance, affected by scholasticism, that Leibniz took upon his shoulders at the beginning of his career. Later in life he observes that he has been re-reading Aristotle, and that he finds much of value in him. The extent of his acquaintance with the text may be left in doubt. It is probable that he had little or no direct knowledge, that he abandoned the study of the history of philosophy almost altogether for some years, and the fresh approach to Aristotle did not produce much effect upon his subsequent work. The interest lies in Leibniz's saturation which the Aristotelian tradition—in spite of a momentary peevishness against the degenerate scholasticism in which he had been brought up—and in the compound to which the contact of this training with the speculations of contemporary science gave rise. To this particular problem the drawing of parallels and the estimating of borrowings—conscious and unconscious—is irrelevant. Nor are we here concerned with the question whether "this seemingly fantastic system can be deduced from a few simple premises."¹⁰ The question is the actual genesis of the system. If, at the age of fifteen, Leibniz inclined to the view that substances are particular individuals and that relations exist only in the mind; if we can see that his transition to atomic materialism follows quite easily from this; if we find that his further development depended upon the way in which his scientific researches and his theological prejudices—largely an inheritance from his early training—played into each other; then we shall con-

¹⁰ Russell, p. viii.

clude that his metaphysics and his scientific achievements—logical and mathematical—are two different values.

What is curious about Leibniz's mind is the existence of two distinct currents. As a scientist he has a clear and consistent development. Every step is justified and coherent from this point of view alone. His metaphysics is carefully built upon his scientific evolution. On the other side is a strong devotion to theology. His study of Descartes marks a stage in the development of both. Descartes's theory of matter, and Descartes's theory of self-consciousness both had their effect upon him. And it is always the same mind working, clear and cold, the mind of a doctor of the church. He is nearer to the Middle Ages, nearer to Greece, and yet nearer to us, than are men like Fichte and Hegel.

We have seen that there is a very great difference between the Aristotelian theory of substance and the nominalism deriving from it with which Leibniz starts. Both in the *Metaphysics* and in the *De anima*, it is true, Aristotle leaves the answer somewhat ambiguous. When he discusses the substance of organic beings we are apt to think that each individual is a substance—that the form of each body is an individual—one form for Socrates, and another for Callias. It is difficult to avoid this conclusion, but in general, for Aristotle as well as for Plato, whatever was merely individual was perishable and incapable of being a subject of knowledge. But if we say, with Burnet (*Greek Phil.*, p. 331) that "Plato found reality, whether intelligible or sensible, in the combination of matter and form and not in either separately," and take the same view of Aristotle, yet we cannot say that they found it in each individual as a world apart. This is an instance of the differences between Leibniz and the Greeks. In Leibniz we find the genesis of a psychological point of view; ideas tend to become particular mental facts, attributes of par-

ticular substances. If the form or principle of Aristotle were different in each man, this form would be Leibniz's soul. For the Greek the human was the typically human, individual differences were not of scientific interest; for the modern philosopher individual differences were of absorbing importance.

We may now trace the two currents which are imperfectly united in the monad. Leibniz approaches the problem of substance primarily as a physicist. "Leibniz does not begin with the problem, what is the substance of the body, what is its origin, but from this: how the principle of the body itself may be conceived" (Dillmann, p. 63). To those readers—there are still a few—who know Leibniz only through the *Monadology*, the steps to the conclusion will remain unknown. Unless we appreciate the original question we shall be unable to understand his solution of the problem of body and soul, and of the problem of our knowledge of external objects. He never asked the question, "do physical bodies exist?" but always, "what is the principle which makes physical bodies intelligible?" The answer is found in his reaction to Cartesianism. And at this point, while the problem of energy was engaging his attention, he read some of the dialogues of Plato, and was confirmed in his conclusions especially by certain parts of the "Sophist." What we get is on the one hand an explanation of the principle of matter, and on the other an idealistic metaphysic, largely influenced by Descartes, based upon self-consciousness. The latter aspect has of course been more exploited than the former.

Leibniz's account of physical matter is a much more scientific, but in some respects much cruder, explanation than Aristotle's. For Aristotle's account is fundamentally a relativistic one, i. e., "matter" has various meanings in relation to shifting points of view which form a series but are not themselves defined. There are meanings in various

contexts, but no absolute meaning; and the series of points of view, the series of contexts, has no absolute meaning either. One misses the whole point of Aristotle's theory if one regards matter as a "thing." It is—whether as primitive matter, as the four elements, or as any compounds (I mean σύνθεσις not μίξις) of any degree of complexity formed out of these, one side of a contrast in the mind (or imposed upon the mind) though this mind is no more absolutely definable than matter itself. (Hence Aristotle is neither an idealist, in the modern sense, nor a pragmatist.) *Materia prima* is not simply negative nor is it positive in any apprehensible way. It is simply the furthest possible extension of meaning of a concept which has arisen out of practical complexes. The next stage in the conception of matter, it will be recollected, is that of a subject possessing two out of two pairs of opposites (wet-dry, hot-cold). The *materia prima* is not *actual*, because it has no predicates; the smallest number of predicates which an actual existent can have is two. That is, whatever is merely hot, or merely dry, is not a substance but is identical with the quality itself; but whatever is hot and wet, or cold and dry, is a substance different from its predicates. These elements—the possible combinations of four qualities—are capable of transmutation into one another in a cycle which occurs in the exchange of qualities (the hot-dry becomes hot-wet, the hot-wet becomes wet-cold, etc.). The third stage of matter is that of the stable compounds of the four elements held together in various proportions. This progress is not a chemical theory in the modern sense; it is a series of points of view. The formal cause is therefore identical with the thing itself, and whether the form is there is a question of what we regard as the thing. The lump of marble is a σῶρος of higher compounds of the four elements—or it is a statue. One must keep in mind the two apparently inconsistent

propositions: (1) there are no forms of individuals,¹¹ (2) the form and the matter compose one whole.

Aristotle is too keen a metaphysician to start from a naive view of matter or from a one-sided spiritualism. To a certain extent Leibniz keeps this middle ground too. But his metaphysics tends to fall apart, as the result of his inherited nominalism, and the fissure between his scientific and his theological interests. Starting as a physicist, Leibniz naturally assumes that matter is not a relative term but that it is (if it exists at all, of which he has no doubt) something absolute. The substantiality of matter consists then (after his defection from Cartesianism) in the concept of force. Force is not conceived as something behind matter, which could be actual without matter. But neither is it a "form" in quite the Aristotelian sense. The "real and animated point" of the *Système nouveau* is from an Aristotelian point of view merely another individual, or a form of an individual. It is purely and simply a physical explanation. It involves no theory of knowledge, because it does not take into account the point of view of an observer; it is a contrast not between matter and form, but between a particular substance and its states.

The distinction between *materia prima* and *materia secunda* (of bodies) is superficially Aristotelian. But it is really only a distinction between two ways in which matter may be considered for the purposes of the physicist. It is a distinction of uses and not of contexts. "Matter is not a relative term. The ancient distinction between matter and form does not correspond to the modern distinction, since Descartes, of matter and spirit. And the dichotomy is as strongly marked in Leibniz as in Descartes. His solution of the difficulty marks the wide gulf that separates modern from ancient philosophy. For Aris-

¹¹ Except of course eternal and unique individuals, like the moon, which is the only individual of its species. And for later theology, the angels.

total matter and form were always relative, but never identical. For Leibniz matter and spirit are absolute reals, but are really (as for Spinoza) the same thing. The difference for Leibniz is that between internal and external aspects. *Materia prima* is not a stage, it is an external aspect, and even for physics he finds this aspect insufficient. He is therefore led gradually into a metaphysical conception. But from this metaphysical account of the nature of the physical universe to his doctrine of souls there is really no legitimate inference.

The theory of forces, as the substances of which material changes are the states, is not the theory of the soul which derives from his more theological interest. It is, as we have said, simply an analysis of the physical universe. Had Leibniz been quite consistent he would have gone on to explain organic and conscious activity on a strictly physical basis. This he did accomplish in some measure. His doctrine of expression (see letter to Arnauld, Oct. 6, 1687) is an account of perception consistent with a purely physical and mathematical point of view. But his transmigration¹² of human souls is muddled by the identification of soul, in the sense of personality, with the animated point; of the core of feeling of the self with the force of which it is predicated. From his physical point of view he cannot arrive at self-consciousness, so that his doctrine of force has two grounds—the theory of dynamics and the *feeling* of activity. If we refuse to consider self-consciousness a simple and single act, if making an object of oneself merely means the detachment and observation of particular states by other states, then the “force” slips out of our hands altogether. It remains “internal,” it is true, in contrast with primary matter, but its internality is not a character of self-consciousness. And in this

¹² Leibniz of course explicitly repudiates any “transmigration” of monads. But when he comes to the human soul its adventures seem to be tantamount to this.

event the whole theory becomes completely naturalistic. Something is the subject, but it is not the *I* which I know, or which anybody knows. And there then remains no reason why we should longer maintain a plurality of subjects. Force becomes one. Against such a conclusion Leibniz was set, (1) because it ceases to have any value for physics, and (2) because it interferes with our claim for personal immortality. Theology and physics join forces (so to speak) to rob metaphysics of its due.

Hence two curious difficulties arise. An animated force, a monad, tends to become an animated atom. The monad exerts its activity at a point in space and time. Artefacts, as for Aristotle, are merely groups of monads without a dominant monad. Organic bodies are groups with a dominant monad. In the latter case, in the case of a human being, in what sense is my body *mine*, since it is also the bodies of other monads? The dominant monad should be the form of the body, instead of which it bears a strong resemblance to a larger or more powerful cell, and the soul would have to be located, like Descartes's, in a particular place. Russell, in contrasting Leibniz's two conflicting theories (pp. 149-150) says of the second view: "in the other theory, mind and body together make one substance, making a true unity." So they ought to do. If the mind cannot make the body into a *unum per se*, instead of a mere aggregate, the original physical theory has advanced to a point at which mind and body fall apart. The second view appears to descend from Aristotle.¹⁸ The first appears to descend from atomism. From neither philosophy does Leibniz ever shake himself quite free.

There is, from the physical side, a sense in which the monad is truly immortal. Force is indestructible, and will continue in various manifestations. But force in this sense

¹⁸ Leibniz actually says (letter to Arnauld, July 14, 1686): "The soul is nevertheless the form of the body."

is entirely impersonal. We cannot conceive of its persistence except by associating it with particular particles of matter. Leibniz is led by his difficulties almost to the point of either denying the existence of matter altogether, or else setting up a sort of matter which will be something real besides monads.

The second objection is connected with the generation and destruction of life. For Aristotle some account of generation and destruction is rendered possible by his provisional distinction between efficient and formal causes. Aristotle was not embarrassed by a belief in personal immortality, and his philosophy confines itself with fair success to an examination of the actual, the present life. But Leibniz's force is indestructible in a different sense from Aristotle's form.¹⁴ It persists in time as a particular existence. The monad which is myself must have previously existed; it must have been one of the monads composing the body of father or mother (see Russell, p. 154). This theory has the disadvantages of practically denying the independence of mind from body and of separating monadhood from selfhood. It substitutes biological behavior for conscious activity.

Commencing with an analysis of the nature of matter, Leibniz is led to the view of a universe consisting of centers of force. From this point of view the human soul is merely one of these forces, and its activity should be reducible to physical laws. Under the influence of an Aristotelian doctrine of substance, he comes to conclusions which are not at all Aristotelian, by his nominalistic assumption that substances are particulars. From a materialistic atomism he is led to a spiritualistic atomism. In this he shows again an important difference between the

¹⁴ Aristotle and Plato, I am inclined to believe, owe their success in navigating between the particular and the universal, the concrete and the abstract, largely to the fact that "forms," "species," had to the Greek mind not exactly the same meaning as for us. They were concrete without being particular.

ancient and the modern world. It is illustrated in the prejudice of Aristotle against the differences between individuals of the same species which he ascribes to the perverse and unaccountable influence of matter. To the Greek, this variety of points of view would seem a positive evil; as a theory of knowledge, it would seem a refuge of scepticism; to Leibniz and the modern world, it enhances the interest of life. And yet the view of Leibniz comes, *via* nominalism, out of Aristotle himself.

From the point of view of physics we have a consistent explanation which represents a great advance upon crude materialism. But it is difficult to retain the separate forces unless we conceive of matter as a positive principle of individuation. Not that the doctrine of activity and passivity is wholly unsatisfactory.¹⁵ Its effect is to reduce causality to function. And but for the Aristotelian influence, it might possibly have done so. Instead of monads we might then have had atomic particulars. But Leibniz sometimes confuses the mathematico-physical and the historical points of view. It is true that the future of the monad should be theoretically predictable. But Leibniz leaves the basis of prediction uncertain. Without recourse to mysticism, the reasons why a monad should pass from the unconscious to the conscious state, why a monad composing the body of father or mother should suddenly be elected to domination over a new body of monads, remain unsolved. We have seen that the notion of soul or spirit is not to be reached by the theory of monads as an explanation of the principle of matter. If it is part of Leibniz's inheritance we may inquire just what Aristotle's view of the soul was.

Leibniz's theory of soul is, like that of Descartes, derived from scholasticism. It is very remote from that of

¹⁵ There are implicitly two views of activity and passivity. According to one, causality is a useful way of treating natural phenomena. According to the other, there is true activity in clear perception, true passivity in confused. This illustrates the mixture of motives.

either Plato, Aristotle, or Plotinus. For the Greeks, even for Plotinus, the soul is a substance in a sense which does not include personal immortality. For Aristotle there is no continuity between the stages of soul, between vegetable, animal and human life. And the definition of monads as "points of view" is, so far as I can see, entirely modern.

For Aristotle, according to his own explicit statement, there is no "soul" in general. As the species of figure to figure in general, so are the souls of various species of animal to "soul" in general (*De anima*, 414b 20 ff.). In the higher grades of soul the same functions persist, but in a form altered by the nature of the whole. The organs of different species are related by analogy—as root is to plant, so mouth is to animal, but mouth is not a development of root. The *De anima* is not so much a psychological as a biological treatise. We find in the animal the τροφή and αὔξησις of the plant, but completely altered in the addition of a new faculty—αἰσθησις. And these faculties are not sharp dividing lines, but in the ascending scale are used more and more loosely.¹⁶ The natural species are immutable, and the difference does not consist in addition or subtraction of faculty.

There is a suggestion, but only a suggestion, of the doctrine of Aristotle in the three classes of monads. Even the lowest class of monad (*Monadology*, 19) has appetition. The second has feeling (sentiment) which is something more than αἰσθησις and includes φαντασία and perhaps διάνοια. The soul of man only has self-consciousness, a knowledge of eternal and necessary truths,—νοῦς. It seems very probable that this scheme was suggested by Aristotle¹⁷ but there is a profound difference. The classification of Aristotle is on the basis of biological functions.

¹⁶ Cf. 413 b 12, 432, and 414. Motion according to 413 is not a fourth species of the soul besides θρεπτικόν, αἰσθητικόν, διανοητικόν.

¹⁷ And, in passing, it seems possible that the theory of Leibniz may have supplied a hint for the romantic evolutionism of Diderot.

These are functions of the organism as a whole, a complex substance. Plants are not ζῷα, and have no appetite. Aristotle makes much of the distinction between beings which are attached to a single place and those which move about. For Leibniz the distinction is not biological, but psychological, and is everywhere a difference of degree. The lower monads, if they had clearer perceptions, would rise in the scale. It is not a limitation of the body, but a limitation of the nature of the monad itself which establishes differences. For Leibniz the series is a continuum; for Aristotle it is not. For Leibniz desire characterizes mind; for Aristotle desire is always of the complex organism; the function of mind is solely the apprehension of the eternal and necessary truths and principles.

There is another point upon which Leibniz may have drawn his inspiration from Aristotle, and that is the "common sense." "The ideas which are said to come from more than one sense, like those of space, figure, motion, rest, are rather from common sense, that is from the mind itself, for they are ideas of the pure understanding, but they are related to the external, and the senses make us perceive them" (see Russell, p. 163). Leibniz's theory appears to be a transition between Aristotle and Kant. What Aristotle says is this: "The above (i. e., color, sound, etc.) are called *propria* of the respective senses; the perceptions common to all are motion, rest, number, figure, magnitude. These are not *propria* of any, but are common to all" (418a 17ff). Whereas Leibniz stuffs these κοινὰ into the mind, Aristotle goes no farther than to say that they are perceived κατὰ συμβεβηκός by all the senses. There is not, as is sometimes thought, a "common sense" which apprehends them, as the eye perceives color.¹⁸ What is interesting in the present context is the cautious empiricism of Aristotle's

¹⁸ Zabarella, probably the greatest of all Aristotelian commentators, is very positive on this point.

theory, contrasted with the more daring but less sound speculations of Leibniz.

The question of the relation of mind to matter is handled by Leibniz differently from either Aristotle or Spinoza. I am inclined to think that it was conceived quite independently of Spinoza. Leibniz attacks Spinoza fiercely on the ground of Spinoza's naturalism, and for his disbelief in free-will and immortality.¹⁹ He perceives, quite correctly, that Spinoza's view of the relation of mind and body leads to a materialistic epiphenomenalism. "With Spinoza the reason does not possess ideas, it is an idea." He insists that the mind and the body are not the same thing, any more than the principle of action and the principle of passion are the same thing. But he inclines to believe that the difference between mind and matter is a difference of degree, that in all created monads there is materiality. (There seems to be a relation between *materia prima* of monads and *materia prima* of matter.) Now this suggests the Aristotelian relativity of matter and form; for Aristotle the higher substances are more "formed," the percentage of crude matter seems to decrease. There is no matter and no form in an absolute sense (except the form of God, who is rather a disturbing factor). But whereas for Aristotle matter exists only in contrast with form, and formed matter may be the matter for a higher form, for Leibniz matter really exists independently of spirit, but is really spirit.

Leibniz's use of the term "entelechy" is not identical with that of Aristotle. The monad is called entelechy apparently because it is complete in itself, complete in the sense of self-sufficient; while the entelechy of Aristotle is the *completion* or actuality of something. In the *De anima* the soul is called the first entelechy of body. To be strictly consistent, Aristotle should perhaps have held that soul

¹⁹ See Foucher de Careil: *Réfutation inédite de Spinoza par Leibniz*.

is the second entelechy, since he maintains that it is only actual when it energizes; but he is merely trying to distinguish between the form and its operation.²⁰ Entelechy means that the body would not be a human body without the soul. It is difficult, it is true, not to think of the soul as something added to the body (as to Galatea) or else to identify soul with the (living) body. Soul is to body as cutting is to the axe: realizing itself in its actions, and not completely real when abstracted from what it does. In the light of Aristotle's elaborate critique of earlier theories of the soul, his view is seen as an attempt to get away from the abstractions of materialism or of spiritualism with which we begin. For Aristotle reality is here and now; and the true nature of mind is found in the activity which it exercises. Attempt to analyze the mind, as a thing, and it is nothing. It is an operation. Aristotle's psychology therefore starts with psycho-physics, and ascends to speculative reason. It is only then that we perceive what mind is, and in retrospect find that it was present in the simplest sensation.

The word entelechy as used by Leibniz loses the meaning which it had for Aristotle. It becomes figurative and unimportant. Leibniz appears at first less a dichotomist than either Aristotle or Descartes. In effect, the breach between mind and matter becomes far wider than in the system of Aristotle. In order that mind may persist at all times as something distinct from the body, appeal is made to the subconscious,—a parallelism even more mystifying than that of Spinoza. With Leibniz the relation of mind and matter is closer, the relation of body and soul more remote, than with Aristotle. The weakness in Leibniz's theory of body and soul may be due to two causes. On the one hand his theological bias made separation of

²⁰ See *De anima*, 412a, 27, where *δυνάμει ζῶντος ἔχοντος* means having "the potentiality of functioning," not "the potentiality of soul." The above distinction between form and operation was pointed out by Zabarella.

body and soul essential; and on the other hand it was necessary, from his more strictly philosophical substances, the monads should persist after the compound substances, the bodies, which are their points of view. It is required both by his theory of substance, and by his demand for a mathematical metaphysic. The causal series which is the monad should apparently have no last term.²¹ Perception (in Leibniz's general statement of expression) requires that every series should be similar both to every other series and to the series of series.²² The same theory which demands unconscious perception seems to demand also a series which shall not terminate in time. Supposing that the destruction of individual monads shall leave the total, as an infinite number, undiminished, nevertheless the monad as a substance will have to shut up shop, and we shall be left with a number of relations relating nothing. Some sort of persistence is necessary for the system, though not the personal immortality which Leibniz is interested in supporting. It is evident that with the possibility of changes of "point of view" the meaning of prediction becomes hopelessly attenuated. Every moment will see a new universe. At every moment there will be a new series of series; but continuity makes necessary a point of view from which there shall be a permanent series of series of series.

Leibniz's theory of mind and matter, of body and soul, is in some ways the subtlest that has ever been devised. Matter is an arrested moment of mind, "mind without memory."²³ By state is not meant feeling, but the monad at any instant of time.²⁴ In many ways it is superior to that of Aristotle. When he turns to preformation, to the

²¹ See Russell: "Recent work on the philosophy of Leibniz," *Mind*, Vol. XII, N. S., No. 46, pp. 25-26.

²² See Russell, *ibid.*, p. 25.

²³ *Theoria motus abstracti*, 1671; quoted in Latta, p. 230. Compare the Bergsonian theory of matter as consciousness "running down."

²⁴ Cf. "only indivisible monads and their states are absolutely real."

vinculum substantiale, to the immortality of the soul, we feel a certain repulsion; for with all the curious fables of the "Timaeus" or the "Physics" and Aristotle's history of animals, we know that Aristotle and Plato were somehow more secure, better balanced, and less superstitious than the man who was in power of intellect their equal.

There are two other points in monadism which direct attention to the Greeks. These are the theory of innate ideas and the theory of substance as force expressed in the "Sophist." So far as the question of indebtedness goes I think that the answer is clear enough. The views which Leibniz held were forced upon him by his own premises. He undoubtedly read Plato at a time when his own theory was not yet crystallized, but he cannot be said to have borrowed. He may be given full credit for having restored to life in a new form the doctrines of Plato and Aristotle. The monad is a reincarnation of the form which is the formal cause of Aristotle. But it is also more and less. The outstanding difference is that he sets out from an investigation of *physical* force, and his monads tend to become atomic centers of force, particular existences. Hence a tendency to psychologism, to maintain that ideas always find their home in particular minds, that they have a psychological as well as a logical existence. Leibniz on this side opened the way for modern idealism. To his anticipations of modern logic of a school opposed to absolute idealism it is unnecessary for me to point. No philosophy contains more various possibilities of development, no philosophy unites more various influences. That he did not always unite them successfully—that he never quite reconciled modern physics, medieval theology, and Greek substance, is not to be reproved when we consider the magnitude of his task and the magnitude of his accomplishment.

T. STEARNS ELIOT.

LONDON, ENGLAND.